



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Adress: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,621	03/29/2004	Chien-Hsueh Shih	67,200-1168	2719
7590 TUNG & ASSOCIATES Suite 120 838 W. Long Lake Road Bloomfield Hills, MI 48302		09/08/2008	EXAMINER WONG, EDNA	
			ART UNIT 1795	PAPER NUMBER PAPER
		MAIL DATE 09/08/2008	DELIVERY MODE PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/811,621	<b>Applicant(s)</b> SHIH ET AL.
	<b>Examiner</b> EDNA WONG	<b>Art Unit</b> 1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 15 July 2008.

2a) This action is FINAL.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1,2,4-7,9,12,13 and 21-24 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1,2,4-7,9,12,13 and 21-24 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/06)  
 Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_

5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 15, 2008 has been entered.

This is in response to the Amendment dated July 15, 2008. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office Action.

***Response to Arguments***

**Claim Rejections - 35 USC § 112**

Claims **1-2, 4-7, 9, 12-13 and 21-24** have been rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The rejection of claims 1-2, 4-7, 9, 12-13 and 21-24 under 35 U.S.C. 112, first paragraph, has been withdrawn in view of Applicants' amendment.

Claim Rejections - 35 USC § 102/103

I. Claims **1-2 and 5-6** have been rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **Meine et al.** (US Patent No. 6,689,223 B1).

The rejection of claims 1-2 and 5-6 under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Meine et al. has been withdrawn in view of Applicants' amendment.

II. Claim **9** has been rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **Meine et al.** (US Patent No. 6,689,223 B1).

The rejection of claim 9 under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Meine et al. has been withdrawn in view of Applicants' amendment.

Claim Rejections - 35 USC § 103

I. Claims **4, 7 and 21-22** have been rejected under 35 U.S.C. 103(a) as being unpatentable over **Meine et al.** (US Patent No. 6,689,223 B1) as applied to claims 1-2 and 5-6 above.

The rejection of claims 4, 7 and 21-22 under 35 U.S.C. 103(a) as being unpatentable over Meine et al. as applied to claims 1-2 and 5-6 above has been

withdrawn in view of Applicants' amendment.

II. Claims **12-13 and 23-24** have been rejected under 35 U.S.C. 103(a) as being unpatentable over **Meine et al.** (US Patent No. 6,689,223 B1) as applied to claim 9 above.

The rejection of claims 12-13 and 23-24 under 35 U.S.C. 103(a) as being unpatentable over Meine et al. as applied to claim 9 above has been withdrawn in view of Applicants' amendment.

***Response to Amendment***

***Claim Rejections - 35 USC § 112***

Claims **1-2, 4-7, 9, 12-13 and 21-24** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

**Claim 1**

lines 16-17, it appears that "an electroplating process" is the same as the metal electroplating recited in claim 1, lines 2-3. However, the claim language is unclear as to whether it is.

**Claim 9**

lines 18-19, it appears that "an electroplating process" is the same as the copper

electroplating recited in claim 9, lines 2-3. However, the claim language is unclear as to whether it is.

***Claim Rejections - 35 USC § 102/103***

I. Claims 1-2, 4-6 and 21-22 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Meine et al. (US Patent No. 6,689,223 B1).

Meine teaches an electrolyte bath, comprising:

(a) an electrolyte solution (= a lower aqueous ***phase I***) [col. 2, lines 16-20]; and  
(b) a composition (= an upper aqueous ***phase II***) [col. 2, lines 16-20] comprising an organic acid (= citric acid) [col. 2, line 28] and a non-ionic polymer mixed with said organic acid (col. 2, lines 25-30), said non-ionic polymer selected from the group consisting of an alkoxylated alcohol, an alkoxylated amine, and an alkylphenol alkoxylate (= 2% by weight of C<sub>10-14</sub> fatty alcohol + 1 PO/EO ether, 2% by weight of C<sub>12-14</sub> fatty alcohol + 9 EO butyl ether) [col. 2, lines 25-27; and col. 4, lines 19-32];

wherein said composition is disposed as a suspended layer within said electrolyte solution (= one or more continuous phases of a composition may also contain parts of another phase in emulsified form so that, in a composition such as this, phase I for example is partly present as continuous phase I, which represents the lower continuous phase of the composition, and is partly emulsified as discontinuous phase I in the upper continuous phase II) [col. 3, lines 10-22], said suspended layer of sufficient

dimension to form a wetting layer on a substrate (*inherent*).

The organic acid is selected from the group consisting of citric acid and acetic acid (= citric acid) [col. 2, line 28].

The non-ionic polymer has a molecular weight of less than 1,000 (= a C<sub>10-14</sub> fatty alcohol + 1 PO/EO ether) [col. 2, lines 25-27].

The composition is present in said electrolyte solution in a concentration of about 5% by weight (= particularly preferred composition are those in which phase I is emulsified into phase II in quantities of 0.1 to 25% by volume and preferably in quantities of 0.2 to 15% by volume, based on the volume of phase II) [col. 3, lines 26-36; and col. 17, claims 4 and 5].

The non-ionic polymer is present in said composition in a quantity of from about 0.5 to about 10 wt. % (= 0.01 to 30% by weight) [col. 3, line 63 to col. 4, line 10].

The organic acid is present in said composition in a quantity of from about 2 to about 20 wt. % (col. 2, line 28; and col. 16, Table 1).

The non-ionic polymer is present in said composition in a wt.% of about 5 (= 0.01 to 30% by weight) [col. 3, line 63 to col. 4, line 10].

The bath of Meine differs from the instant invention because Meine does not disclose the following:

- a. Wherein the bath is suitable for metal electroplating, as recited in claim 1.

The invention as a whole would have been anticipated and/or obvious to one

having ordinary skill in the art at the time the invention was made because what the bath is suitable for does not compositionally distinguish the bath from the prior art (MPEP § 2112(III)).

b. Wherein said electrolyte solution is contained in an electrolyte bath container, as recited in claim 1.

c. Wherein said suspended layer spans said electrolyte solution bath container, as recited in claim 1.

The invention as a whole would have been anticipated and/or obvious to one having ordinary skill in the art at the time the invention was made because what the electrolyte solution is contained in does not compositionally distinguish the bath from the prior art (MPEP § 2112(III)).

Furthermore, the composition disclosed by Meine is an aqueous, liquid, multiphase, surfactant-containing cleaning composition with at least two continuous phases which comprises at least one lower aqueous phase I and an upper aqueous phase II immiscible with the lower phase I (col. 2, lines 16-20). The aqueous phases I and II are fluids, and have the ability to flow and to take on the shape of a container.

d. Wherein said substrate is passed through said suspended layer into said electrolyte solution, as recited in claim 1.

The invention as a whole would have been anticipated and/or obvious to one

having ordinary skill in the art at the time the invention was made because passing a substrate through said suspended layer into said electrolyte solution does not compositionally distinguish the bath from the prior art (MPEP § 2112(III)).

e. Wherein said electrolyte bath further comprises an anode to carry our an electroplating process in said electrolyte solution on said substrate comprising said wetting layer, as recited in claim 1.

The invention as a whole would have been anticipated and/or obvious to one having ordinary skill in the art at the time the invention was made because an anode to carry our an electroplating process in said electrolyte solution on said substrate comprising said wetting layer does not compositionally distinguish the bath from the prior art (MPEP § 2112(III)).

II. Claims 9, 12 and 23-24 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Meine et al. (US Patent No. 6,689,223 B1).

Meine is as applied for the reasons as discussed above and incorporated herein.

#### ***Claim Rejections - 35 USC § 103***

I. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meine et al. (US Patent No. 6,689,223 B1) as applied to claims 1-2, 4-6 and 21-22 above.

Meine is as applied above and incorporated herein.

The bath of Meine differs from the instant invention because Meine does not disclose wherein said organic acid is present in said composition in a wt.% of about 10, as recited in claim 7.

Meine teaches citric acid concentrations of 3.0, 4.0, 5.5, 7.0, 8.0 and 8.5 (col. 2, line 28; and col. 16, Table 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the concentration of the organic acid described by Meine with wherein said organic acid is present in said composition in a wt.% of about 10 because a *prima facie* case of obviousness exists where claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties (MPEP § 2144.05(I)).

II. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Meine et al.** (US Patent No. 6,689,223 B1) as applied to claims 9, 12 and 23-24 above.

Meine is as applied for the reasons as discussed above and incorporated herein.

***RE: REMARKS***

Applicants state that the Examiner has not established that the modified fatty alcohols (including ethylene and propylene oxide) of Meine et al. is equivalent to any one of Applicants non-ionic polymers.

In response, Meine teaches 2% by weight of C<sub>10-14</sub> fatty alcohol + 1 PO/EO ether, and 2% by weight of C<sub>12-14</sub> fatty alcohol + 9 EO butyl ether (col. 2, lines 25-28; and col. 4, lines 18-32).

The PO/EO and EO are alkoxylates and the fatty alcohols are alcohols. Thus, Meine teaches alkoxylated alcohols.

The Examiner is of the opinion that when the prior art discloses a compound which reasonably appears to be identical with or only slightly different than a compound claimed in a claim, a rejection based alternatively on either section 102 or 103 of the statute is eminently fair and acceptable. As a practical matter, the Patent Office is not equipped to manufacture compounds by the myriad processes put before it and then obtain prior art compounds and make physical comparisons therewith.

Applicants state that but even assuming *arguendo*, such is the case, such a fact does not help Examiner in attempting to modify non-analogous art to achieve Applicant invention while ignoring the structural elements of Applicants claims.

In response, the reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem. It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by the Applicants. *In re Linter* 458 F.2d 1013, 173 USPQ 560 (CCPA 1972); *In re Dillon* 919 F.2d 688, 16 USPQ2d 1897 (Fed. Cir. 1990), *cert. denied*, 500 US 904 (1991); and MPEP § 2144.

Applicants state that Examiner has not established any reasonable basis in fact to reasonably support that the modified fatty alcohols (including ethylene and propylene oxide) of Meine et al. are substantially identical, to any one of Applicants non-ionic polymers.

In response, Meine teaches 2% by weight of C<sub>10-14</sub> fatty alcohol + 1 PO/EO ether, and 2% by weight of C<sub>12-14</sub> fatty alcohol + 9 EO butyl ether (col. 2, lines 25-28; and col. 4, lines 18-32).

The PO/EO and EO are alkoxylates and the fatty alcohols are alcohols. Thus, Meine teaches alkoxylated alcohols.

The Examiner is of the opinion that when the prior art discloses a compound which reasonably appears to be identical with or only slightly different than a compound claimed in a claim, a rejection based alternatively on either section 102 or 103 of the statute is eminently fair and acceptable. As a practical matter, the Patent Office is not equipped to manufacture compounds by the myriad processes put before it and then obtain prior art compounds and make physical comparisons therewith.

Applicants state that the Examiner's argument that varying the various concentrations of the cleaning composition of Meine, in forming one lower aqueous phase I and an upper aqueous phase II immiscible with the lower phase I, in an effort to achieve Applicants invention are result effective variables is likewise misplaced since Meine does not disclose or suggest the structural elements of Applicants'

invention.

In response, the structural elements in an electrolyte bath are compositional and/or chemical structural elements. Meine is deemed to read on the structural elements of the electrolyte bath as presently claimed. See above.

Applicants state that the Examiner is further mistaken that the claim language an electrolyte solution suitable for metal electroplating is merely a statement of intended used. Applicants note that Applicants are not required to claim what is old or known, i.e., an electrolyte solution suitable for metal electroplating, which includes compositional elements making the electrolyte solution suitable for metal electroplating.

In response, it is well settled that unpatented claims are given the broadest, most reasonable interpretation and that limitations are not read into the claims without a proper claim basis therefor. *In re Prater* 415 F. 2d 1393, 162 USPQ 541 (CCPA 1969); *In re Zeltz* 893 F. 2d 319, 13 USPQ 1320.

Applicants state that with respect to claim 7, Examiner is further mistaken in arguing that 8% by weight of citric acid disclose by Meine at col. 2, line 28 is equivalent to Applicants 10 wt%. Examiner has provided no support that one of ordinary skill in the art would consider 8 wt % to be about 10 wt % in the relevant art of electroplating solutions or that one skilled in the art would expect electroplating solutions differing only by the amount of the citric acid solution to have about the same properties. Moreover,

Applicants do not claim a range, but a specific amount.

In response, the word "about" permits some tolerance or flexibility to the claimed range. *In re Ayers* 69 USPQ 109 and *In re Erickson* 145 USPQ 207. MPEP § 2173.05(b)(A).

Meine teaches citric acid concentrations of 3.0, 4.0, 5.5, 7.0, 8.0 and 8.5 (col. 2, line 28; and col. 16, Table 1).

A *prima facie* case of obviousness exists where claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties (MPEP § 2144.05(l)).

The Patent Office is not equipped to manufacture solutions by the myriad processes put before it and then obtain prior art solutions and make physical comparisons therewith.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EDNA WONG whose telephone number is (571) 272-1349. The examiner can normally be reached on Mon-Fri 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Edna Wong/  
Primary Examiner  
Art Unit 1795

EW  
September 2, 2008